



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,195	03/19/2001	Kenji Sekine	T&A-105	8167
24956	7590	06/29/2005	EXAMINER	
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314			CRAVER, CHARLES R	
			ART UNIT	PAPER NUMBER
			2682	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/810,195	SEKINE ET AL.
	Examiner Charles R. Craver	Art Unit 2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 January 2005.
- 2a) This action is **FINAL**.                                   2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11-17 and 19-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 11-17 and 19-31 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 March 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Specification***

Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-17, 19 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cachier, US Pat 4,054,875 in view of Otremba.

**Claim 11:** Cachier discloses a transceiver comprising an RF oscillator with a plate supporting a dielectric cavity resonator and a microwave IC (col 2 lines 15-57), as well as reception sections using the oscillator signal for a mixer (col 3 lines 33-42) and a transmission section (col 3 lines 27-32), inherently using an amplifier.

Cachier fails to disclose that the oscillator apparatus is tuned with a conductive wall or that the IC is electromagnetically coupled to the resonator. Otremba discloses

an RF oscillator comprising a microwave IC (reads monolithic) 5 and a coupled cavity resonator 8 provided on a conductor plate 4 which is tuned by conductive wall portions 1 and 2 and fine tuning portion wall 10 (col 2 lines 12-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use such an oscillator in Cachier, as Otremba discloses that such a design allows the oscillator to be more stable and less prone to atmospheric conditions (col 1 lines 26-31). Since the tuning of the resonator of Otremba is done by the housing, it is read by the examiner that the resonator itself is set in advance.

**Claim 16:** Otremba states that the wall and other portions are sealed with a material (col 2 line 65-col 3 line 12). **Claims 17 and 19:** Otremba discloses an MIC (reads monolithic). **Claims 28 and 29:** Otrembe discloses a dielectric support 9 for the resonator which creates an air gap. **Claim 30:** While disclosing applicant's invention of claim 29 above, Cachier in view of Otremba fails to disclose that the support contacts the resonator on two sides. However, such a design is functionally equivalent to the design of Otremba, and as such one of ordinary skill in the art would have found such a modification obvious given they both provide the same function. **Claims 12-15 and 31:** Cachier in view of Otremba fails to disclose a chip capacitor, however, the use of capacitors in oscillator circuits were so notoriously well-known in the art at the time of the invention that the examiner takes Official Notice of such a feature, asserting that one of ordinary skill in the art at the time of the invention would have found such an element obvious to provide proper signal conditioning.

Claims 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otremba in view of Cachier.

**Claims 20, 22 and 24:** Otremba discloses a method of assembling an RF oscillator apparatus comprising providing a microwave IC 5 (reads monolithic) and a coupled resonator 8 on a conductor plate 4 and providing conductive wall portions 1 and 2 and fine tuning portion wall 10 (col 2 lines 12-51), and inherently fixing the resonator and the oscillator to the substrate by adhesion and connecting the devices to the substrate, as well as creating an airtight seal around the devices including the substrate (abstract). Since the tuning of the resonator of Otremba is done by the housing, it is read by the examiner that the resonator itself is set in advance.

Otremba fails to disclose wire bonding or a reception and transmission section.

Cachier discloses the utility of providing an oscillator circuit such as that taught by Otremba (col 2 lines 15-57) with transmission (inherently including amplification) and reception/mixing circuits (col 3 lines 27-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use such devices in Otremba as it would allow the device to utilize the produced field and signal (Cachier col 1 lines 40-44). Further, the transmission and reception circuits would obviously be placed in the sealed cavity taught by Otremba, as such would allow the system to be more stable and less prone to atmospheric conditions (col 1 lines 26-31). Lastly, given that the use of wire-bonding was notoriously well-known in the art at the time of the invention, the examiner takes Official Notice of such a feature, asserting that one of ordinary skill in the art at the time of the invention would have considered such to be

one of a number of viable electrical connections which could have been used in the combined invention of Otremba in view of Cachier. **Claim 21:** since Otremba discloses a printed circuit board on the substrate (col 2 lines 18-23), such would include a wire substrate (film) supported by the substrate. **Claims 23 and 25-27:** the use of silver paste would have been obvious to one of ordinary skill in the art as functionally equivalent to the solder or other conductive adhesives.

**Claims 12-15:** while disclosing applicant's invention of claims 1-5, Otremba fails to disclose a chip capacitor, however, the use of capacitors in oscillator circuits were so notoriously well-known in the art at the time of the invention that the examiner takes Official Notice of such a feature, asserting that one of ordinary skill in the art at the time of the invention would have found such an element obvious to provide proper signal conditioning.

#### *Response to Arguments*

Applicant's arguments filed 1-10-05 have been fully considered but they are not persuasive.

The examiner upholds the rejection over Cachier in view of Otremba. First note that while e.g. Otremba discloses an oscillator, Cachier discloses the use of an oscillator device inside the cavity of the rest of the resonating means. As such, Cachier

Art Unit: 2682

is combinable with Otremba and the combination of the two references creates an airtight resonating cavity including electronics and obviates the instant claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R. Craver whose telephone number is 571-272-7849. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*CCR 6/13/05*

**CHARLES CRAVER  
PRIMARY EXAMINER**

CC  
June 13, 2005